



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,984	06/20/2003	Kurt R. Carlson	NGC-140/000047-199	7137
32205	7590	05/09/2011		
Carmen Patti Law Group, LLC One N. LaSalle Street 44th Floor Chicago, IL 60602			EXAMINER ZEMEL, IRINA SOPHIA	
			ART UNIT	PAPER NUMBER
			1765	
			MAIL DATE	DELIVERY MODE
			05/09/2011 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/600,984

Applicant(s)

CARLSON ET AL.

Examiner

Irina S. Zemel

Art Unit

1765

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 14, 15 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 15, 24-27 is/are rejected.
- 7) ☒ Claim(s) 14 and 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 6, 15, 24-27 are rejected under 35 U.S.C. 103(a) as obvious over US Patent 5,562,985 to Sano et al., (hereinafter "Sano") as evident form "Poisson's Ratio of Foamed Plastics" by Dement'ev et al., (hereinafter "Dement'ev").

Sano discloses a process comprising the steps of: introducing a plurality of voids into a polymeric material, wherein fine plurality of voids are contained within a plurality of hollow compressible microballoons having a thin polymer wall that encloses a gas and wherein the plurality of voids, and the introduction of the plurality of voids into the polymeric material effects a decrease in a bulk modulus of the polymeric material without substantially altering a Young's modulus of the polymeric material; buffering one or more sensor fibers having one or more stress sensitive components in abutment with a portion of the polymeric material from one or more stresses through employment of the portion of the polymeric material that comprises one or more voids of the plurality of voids; and accommodating a movement of the portion of the polymeric material through compression of one or more of the one or more voids by means of compression of the gas in the hollow microballoons through a partial collapse of the thin polymer wall; wherein movement of a portion of the polymeric material is accommodated through compression of at least one of the voids. See, the entire document, especially illustrative example 2.

The amount of microballons in the polymeric material can be selected so to adjust it according to the desired hardness of the resulting polymer material. See col. 3, lines 33-35. Therefore, any amount, including the claims amounts would have been obvious and within routine experimentation.

The reference further disclose addition of coupling agent into the polymer. The size of the microballoons is disclosed as between 1 and 50 μm (col. 3, line 8), which satisfies the claimed limitation of void size.

As discussed in the previous office action (as evident from Dement'ev), the limitation "wherein the polymeric material with the voids has a lower Poisson's ratio than the polymeric material without voids, and wherein, since the voids do not substantially alter the Young's modulus of the solid material, a decrease in the Poisson's ratio results in a decrease in the bulk modulus of the polymeric material" is inherently met by introduction of voids in the polymeric material.

Therefore, the invention as claimed would have been clearly obvious from the disclosure of the cited reference.

Response to Arguments

Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 14 and 21-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record, while clearly teaching methods as claimed in claim 1, does not teach or fairly suggest a method that encompasses all of the limitation of the independent claims 1 and further including limitations of claims 14, i.e., "forming a **pressure-sensitive foam tape** from the polymeric material with the plurality of voids;

applying a portion of the **pressure-sensitive foam tape** to the one or more stress sensitive components; and encapsulating the portion of the pressure-sensitive foam tape and the one or more stress sensitive components with a potting compound";

and 21, i.e., "encapsulating a fiber optic sensing **coil** within the polymeric material that comprises the plurality of voids, wherein the fiber optic sensing coil comprises a **first coil portion and a second coil portion, and wherein the first coil portion is adjacent to the second coil portion**; and locating one or more of the plurality of introduced voids between the **first coil portion and the second coil portion**"

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/
Primary Examiner, Art Unit 1765

Irina S. Zemel
Primary Examiner
Art Unit 1765

ISZ